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Worldwide Report

ENVIRONMENTAL QUALITY

No. 247

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SEARCH FOR VIETNAM VETERANS IN AGENT ORANGE HUNT

Defense Ministry Move

Wellington THE EVENING POST in English 19 Feb 80 p 34

[Text]

THE Ministry of Defence has begun tracking down 3890 Vietnam veterans who might have been exposed to the Agent Orange defoliant.

Last night the Minister of Health (Mr Gair) and the Minister of Defence (Mr Gill) met and made a joint statement saying inquiries would be a "matter of urgency."

While 800 of the veterans are still serving, the rest have left the services and the Ministry will be writing to them at their last known addresses, seeking information about any unexplained illnesses or birth defects in their children.

Already, 33 Vietnam veterans have contacted the Returned Services Association with stories of unexplained rashes, miscarriages in their wives and other medical problems.

The RSA has passed the information on to the Minister of Defence, who is, in turn, passing it to the director-general of medical services at Defence headquarters.

The majority of Vietnam veterans served in the Army, but there were also 28 in the Navy and 61 in the Air Force. The RSA estimates that about half the returned servicemen would have joined it, leaving some 1500 names and addresses which cannot be confirmed.

The two Ministers are also referring the Agent Orange matter to the newly formed Toxic Substances Board, set up under an Act passed last year.

The board has never met. Since it includes representatives of such organisations as the Consumers Institute, the Federation of Labour and the Medical Association, it is thought unlikely it would consider the scientific evidence against Agent Orange at a full meeting.

Health Department sources thought a subcommittee might be set up to consider the evidence.

In their joint statement,

the Ministers said: "While Agent Orange contained quantities of 2,4,5-T and 2,4-D, the levels of the impurity dioxin in the 2,4,5-T used in Vietnam was up to 600 times higher than the levels of 2,4,5-T used in New Zealand over recent years.

Today, the senior toxicologist at the Department of Health (Mr Michael Bates) confirmed that some of the defoliant had very high levels of dioxin.

Dioxin levels in the Agent Orange mixture averaged two to three parts per million, going up to a high of 47ppm. Sprays used in New Zealand averaged only 0.2ppm.

He also pointed out that the mixture had been fairly liberally splashed around in Vietnam and a study was under way of American servicemen who had loaded the mixture into aircraft and had often been drenched with the chemical.

He said that it was normal for just under 3 percent of births in New Zealand to be defective.

RSA general secretary Cliff Penny said today his organisation would co-operate with the Ministry of Defence.

Medical Questionnaire

Wellington THE EVENING POST in English 1 Mar 80 p 3

[Text]

EVERY Vietnam veteran in New Zealand will shortly be asked to fill in a questionnaire on his medical history since leaving Vietnam.

The director of public relations at the Ministry of Defence (Wing Commander G T Clarke) said yesterday the questionnaire and an accompanying letter were now being drawn up.

A team of six at Defence Headquarters is busy looking up the names and addresses of all those who served in Vietnam and matching them up with current addresses provided by the Returned Services Association.

Wing Commander Clarke said it was a fairly weighty task as all the addresses had to be assembled manually, although a computer would be used to address the letters.

The letters will go to 3970 veterans, many of whom left the services soon after returning from Vietnam.

Some Vietnam veterans have already contacted the Ministry, Wing Commander Clarke said. Their names and addresses have been taken and they would be asked to fill in the questionnaire.

Meanwhile, from Whaka-

tane, the national secretary of the Korea and South-east Asia Forces Association (Mr V R Johnson) said he entirely agreed with the Minister of Defence (Mr Gill) that deformed children of Vietnam war veterans should not be treated differently from other deformed children.

Mr Johnson said: "We are not saying there should be preferential treatment for these children, just that there should be no action until the link with Agent Orange is substantiated."

Earlier, the association advised members not to proceed with any claims under the War Pensions Act yet, because there is no provision in it for children affected by the chemical or for assistance to families suffering stress as a result.

Mr Johnson explained that his members wanted to remain under the provisions of the War Pensions Act. They simply wanted to see medical research into Agent Orange to discover if it caused birth defects and to

discover a way of diagnosing the effects it leaves after it has left the body.

If it was proved that Vietnam veterans were having deformed children beyond the average expectation, then the association would make a further move.

Call Brings Response

Wellington THE EVENING POST in English 26 Feb 80 p 34

[Text]

THE number of Vietnam war veterans reporting unexplained illnesses and birth defects in children has nearly tripled since last week's announcement of action by the Government.

By last night the New Zealand Returned Services' Association had received 59 letters and calls from ex-servicemen who believe they may have been affected by the controversial defoliant Agent Orange during their service in Vietnam.

When the Ministers of Defence and Health (Mr Gill and Mr Gair) announced their decision to extend

inquiries last week, the RSA had passed on 20 letters to the Ministers.

The sudden jump in the number of letters follows an appeal by the two ministers for ex-servicemen to make contact.

The Ministry of Defence is now writing to 3890 Vietnam war veterans at their last known addresses seeking information about unex-

plained illnesses and birth defects in children.

Mr Gill appealed to veterans who thought they might have been affected by the spray to contact the director-general of medical services at Defence Headquarters in Wellington immediately.

He said they should not wait for the Ministry of Defence letter to arrive.

CSO: 5000

FIRM MAKING 2,4,5-T REJECTS 'SEVESO ACCIDENT' CLAIM

Wellington THE EVENING POST in English 31 Jan 80 p 9

[Text]

A claim that the New Plymouth manufacturers of the herbicide 2,4,5-T could have been responsible for a major disaster was "totally without foundation," the manufacturer, Ivon Watkins-Dow, said yesterday.

The company statement followed a "Post" review of the book "The Superpoison," a London "Sunday Times" investigation of the poison dioxin.

The review, printed on January 22, stated that dioxin was stored in 44-gallon oil drums at a chemical factory near New Plymouth. It suggested that just one drum could have produced a major disaster.

IWD described the "Post" statement as erroneous and without foundation.

However, the company statement did say that dioxin was removed as an impurity from 2,4,5-T.

"The company took the responsible decision of storing it in drums within a protected compound until such time as the specially designed incinerator ordered from the United Kingdom was delivered and put into operation," the statement said.

The dioxin waste was then incinerated "with complete regard to the safety of IWD personnel and the community."

All drummed stocks of the waste material were disposed of in this way by mid-1979.

Prior to 1973 dioxin was occurring in 2,4,5-T at the rate of 20 parts a million. The Agricultural Chemical Board's limit is 0.1 parts, and IWD have now modified their manufacturing process. Removing dioxin has now become unnecessary.

"In summary, it is a gross error to suggest that entire drums of dioxin were ever stored at IWD. Anisoles (a chemical compound) containing up to 20 parts a million of dioxin were stored in drums and subsequently disposed of in the safest possible way — through incineration. The waste material was always treated with regard to safety. No possibility of a 'Seveso accident' in New Plymouth ever existed."

Seveso was the northern Italian town hit when a factory accident sent a cloud of dioxin into the air.

SPRAYING OF 2,4,5-T CONTINUES TO AROUSE CONTROVERSY

Call For Immediate Halt

Wellington THE EVENING POST in English 6 Feb 80 p 12

/Text/ Brooklyn residents last night called for an immediate halt to Wellington City Council plans to spray 2,4,5-T on Carey's Gully land.

There should be an immediate ban on all council use of the controversial herbicide, the meeting of about 200 people of all age groups decided.

The resolution passed by an overwhelming majority stated this was in the interests of public health and safety, in the light of possible connections between illness and the use of 2,4,5-T in Vietnam, and bore in mind the interests of companies like Ivon Watkins Dow.

The noisy meeting lasting several hours was chaired by Ms Sonja Davies, of the Federation of Labour, and was addressed by Mr Brian Watts, registrar of the Agricultural Chemicals Board, Wellington City Councillor Helene Ritchie, the Health Department's chief toxicologist (Mr Michael Bates), and a Blenheim environmentalist, Mrs Margaret Peace.

Among those to attend were the chairman of the city council's works committee (Cr Jim McMillan), Councillors Gavin Wilson, Tony Brunt, and Frank

O'Flynn, who is also the Labour Party's shadow Cabinet Minister of Health.

The first speaker was Mr Watts, who stressed that the board was impartial in the matter and would not get involved in the spraying of Carey's Gully.

Agent Orange and 2,4,5-T were not the same, he said.

2,4,5-T was the most widely used agricultural chemical in New Zealand, with about 500 tonnes used a year, 70 percent by aircraft, and there were no alternatives to it for all its uses.

"2,4,5-T as used in New Zealand is safe to use, and unless and until we sight other evidence to the contrary there is no suggestion we will revoke registration of 2,4,5-T," Mr Watts said.

Cr Ritchie described a lot of his information as incorrect. She labelled the actions of the Health Department and the board on the issue as "bureaucratic protectionism," saying the board had the power to ban the use of 2,4,5-T and prohibit aerial spraying.

Mr Bates said that the fact that the chemical damaged plants did not mean it would have any effect on humans, and vice versa.

His comment that what one scientist said did not necessarily have any validity whatsoever, was greeted by cries of "then sit down" from the angry audience.

Mrs Peace, a member of the agricultural chemicals action group and of the Environmental and Conservation Organisation (ECO), cited examples of misuse of the chemical.

She said there would never be anything that the scientific community would accept as outright proof that 2,4,5-T was dangerous to humans.

Cr McMillan took the floor to clarify the council's spraying intentions.

He countered an allegation that the council was just spraying the land to eradicate gorse at the request of another city councillor, Audrey Fitzgerald, who had bought the adjoining block of land, was bringing it into production

and wanted to lease part of the Carey's Gully block.

"They (Cr Fitzgerald and her husband) are looking for extended areas in which to farm and they have naturally approached the corporation," Cr McMillan said.

This, however, had "certainly not influenced the council" in its decision to have the land sprayed.

There were several calls from members of the audience for the council to eradicate the gorse by methods other than spraying, such as by mechanical means or by labour employed under temporary employment schemes.

Cr McMillan put the cost of this at \$800 to \$1000 for

0.4 hectare compared with \$62 a hectare for helicopter spraying, \$150 for ground application 2,4,5-T, and \$250 a hectare with ground application using long hoses.

A man, who said he was a scientist living in the area, was applauded for his comments.

He said there was more doubt about 2,4,5-T than any chemical still legally in use.

No one anywhere had ever found a safe level for dioxin and, anyway, there was no knowledge that it was dioxin that was the problem. There were political reasons why people wanted to keep on using 2,4,5-T, he said.

Labour's Cr O'Flynn said

he was not satisfied that there had yet been a "satisfactory study" made available in New Zealand.

Five of Sydney's largest local bodies had stopped using the herbicide in recent months in order to reconsider the situation. Use of the chemical in New Zealand should be suspended until an inquiry and rigorous testing was carried out on it, he said.

The city council is to reconsider its decision to hand-spray the chemical at Carey's Gully on Thursday at the works committee's public meeting. This decision is to be debated by the full council at its public meeting next Wednesday.

Wellington Defers Action

Wellington THE EVENING POST in English 8 Feb 80 p 2

[Text] The Wellington City Council will not be using any 2,4,5-T anywhere for the next month. But a decision on the controversial issue of whether council land near Carey's Gully is to be sprayed with 2,4,5-T either by hand or from the air was yesterday deferred by the council works committee for another month.

The decision to defer the issue while the Wellington public had a look at the land in question and while the council looked at alternatives to spraying, was made on a split vote.

The motion to delay decision, put by the Mayor (Mr Fowler), was supported by Councillors Stewart Duff, John Wootton, and the committee's chairman (Cr Jim McMillan).

Voting against it was the Labour team on the committee, comprising Councillors Helene Ritchie, Bill Jeffries and Joe Aspell.

Committee members visited the land at lunchtime in wet, windy conditions. Mr Fowler decided it was remote and rural.

Back at the committee meeting he moved that the matter be deferred for a month so that people had the opportunity "to examine the remoteness or otherwise of the area" and for the council to examine alternative management schemes for it.

The council had a responsibility to see that the area was managed and that citizens gained thereby, he said.

It was not the council's job to "pioneer research on the effect dioxin might have" on its citizens, and the council should, therefore, "stand from any recommendation about 2,4,5-T usage or non-usage," Mr Fowler said.

Cr Ritchie tried to move an amendment to the motion

to the effect that the council "suspend its use of 2,4,5-T for at least nine months or until the newly constituted independent Pesticides Board conducts a full public inquiry."

Cr McMillan ruled that her statement was not an amendment, however, and she was not allowed to put it.

The council's Labour caucus leader, Cr Bill Jeffries, stepped in to help Cr Ritchie, saying the council had to take the matter "head on" and make up its mind on it.

The council had put aside at least \$700 for the work and had to grapple with the issue rather than putting it aside for someone else, like the pesticides board, to

decide, Cr Jeffries said.
Cr Duff disagreed: "We're dealing with a subject which affects the whole economy of this country. I would not be party to any recommendation which stopped the use of it."

Cr Ritchie argued that any 2,4,5-T used on the exposed area, today renamed by the council Te Kopahou, meaning "windswept" — would be widely spread by the wind.

The gorse should be left

where it was in isolated pockets as a protection against erosion, she said. The council was not required to remove the gorse but to eradicate it which could be simply done by allowing it to regenerate.

It was well known, Cr Ritchie said, that the council had 2,4,5-T applied by contractors throughout the city. In some cases, schoolboys had applied the chemical.

"Anybody can apply it," she

said.

The city engineer (Mr Jim Macdonald) told the committee that there was no 2,4,5-T spraying scheduled for the city for the next month.

The matter was deferred until the March works committee meeting, but could well be discussed by the full council at its meeting next Wednesday evening when the committee's deferment decision will have to be approved.

Union Officials Back Ban

Wellington THE EVENING POST in English 14 Feb 80 p 5

[Text]

The Wellington Trades Council will be asked later this month to support a ban on the use of the herbicide, 2,4,5-T, throughout the Wellington region.

The secretary of the Wellington City Council's combined unions (Mr Henry Stubbs) said a meeting of officials this week endorsed a call by delegates for a ban

on the use of the poison by council staff.

They also decided to call on the trades council for wider support of the ban, he said. They wanted a total ban on the use, storage and transportation of the chemical until "we're satisfied with the weight of evidence that the chemical is safe to use."

Labour Party Recommendation

Wellington THE EVENING POST in English 20 Feb 80 p 10

[Text]

The Labour Party's shadow Cabinet is likely to consider a recommendation on the use of the controversial chemical 2,4,5-T, it was revealed today.

The recommendation is to be made by the party's shadow Cabinet Minister of Health, Island Bay MP Mr Frank O'Flynn.

In his role as a Wellington city councillor, Mr O'Flynn recently indicated he would second a notice of motion to the council from his fellow Labour councillor Helene Ritchie.

Cr Ritchie's motion — to be discussed at the council's meeting on March 7 —

reads: "That the council suspend the use of 2,4,5-T until an adequate public inquiry into its use in New Zealand has been conducted by suitably qualified and independent persons who should also evaluate fully the reports of inquiries into its use in other countries and the council calls on the Government to institute such an inquiry."

Mr O'Flynn said he would be reporting and making a recommendation to the shadow Cabinet on the chemical's use "fairly soon."

It might take a few weeks to formulate a policy on the subject, and he was "not quite sure what the shadow Cabinet might do about it. If it is thought to be controversial it will be decided by the

whole of our caucus," he said.

Mr O'Flynn confirmed his view that there should be a public inquiry into the issue.

Aerial spraying of 2,4,5-T should be completely suspended, but he was open to persuasion over ground spraying where this was done at a safe distance from houses.

HAMILTON, Today (PA). — A Te Kuiti doctor has linked the herbicide 2,4,5-T with the deaths of two local babies who had "gross deformities."

Dr. Valkenburg said today that two mothers told him they had been exposed to 2,4-D in about the 14th week of pregnancy, one from agricultural spraying, and one from roadside spraying.

The information had been entered in his notes at the time, he said.

The evidence included an increase in "wheezes" and allergies, particularly in people from farms or those working with 1,4,5-T.

The previous Department of Health investigation¹ on the effects of 2,4,5-T had been on babies with spina bifida, but the investigation needed to be wider and

or afterproduct of the herbicide, Dr. Valkenburg said. The herbicide should be banned, he added.

STUDIES SHOW PESTICIDE 1080 QUICKLY BREAKS DOWN IN SOIL

Christchurch: THE PRESS in English 1 Feb 80 p 7

[A1] 7

Studies at the University of Canterbury have shown that soil organisms and fungi quickly break down the poison 1080 or sodium fluoroacetate, when it gets into the soil.

The breakdown period on tests is a week or two.

The studies have been done in the botany department by a student from Sarawak who has now successfully completed her dissertation. She is Dr Hong Chai Lien, who has worked under Dr A. I. I. Cole, a microbiologist, and Dr I. R. I. Walker, a biochemist, and Dr A. J. Peters, of the Forest Research Institute at Rangiora.

The work has been supported partly by a grant from the Agricultural Pests Destruction Council and also by a Hertzberg research scholarship received by Dr Bong.

Dr Walker, who is interested in the biochemistry of such chemicals and who believes that all pesticides and herbicides should be submitted to such studies, said that they wanted to ascertain the fate of 1080 that was not eaten by rabbits or opossums and which was leached into the soil.

"It is not enough to say that it disappears," he says. "You might not be able to measure it but it does not mean that it has broken down."

Dr Bong's work involved the sampling of a number of soils throughout the South Island. Some of these were normal soils and others had been exposed to the chemical.

The happy finding in the case of all soils tested has been that 1080 is very readily broken down in the soil — the consequence of the activity of beneficial soil organisms.

Dr Walker said that at least six common soil micro-organisms had been found and there were almost certain to be more involved.

The breakdown process took only one to two weeks, so that no long-term persistence was involved.

The breakdown process occurs as a result of the removal or release of organic fluoride from the material, which demethylates it, and this release has been measured by using newly developed specific ion electrodes, which are very sensitive to organic fluoride and can measure down to one part per million of it.

Once the "defluorinating" activity had been observed, Dr Walker said that the next step was isolating and identifying the different micro-organisms, which occupied a long time.

Biochemical studies had also been conducted to

determine the way in which the 1080 was concerned worked, which involved isolating and purifying them.

Although 1080 was a very poisonous compound, Dr Walker said that these bacteria were not only able to live on it in a dilute solution, but also to grow on it.

This was not an uncommon phenomenon. Dr Walker's research for his doctorate of philosophy at the University of Leeds in England between 1963 and 1968 was on bacteria that break down the common disinfectant, phenol or carbolic acid.

While not all such materials break down so readily and it is the concern of people who make, lay, water pipes and fittings for their pipes that are used underground that these should be highly resistant to the action of such organisms, Dr Walker said it was the molecular structure or architecture of chemicals that determined whether or not they were readily degraded.

SHEEP GET LEAD POISONING FROM ROADSIDE GRAZING

Car Exhausts Blamed

Wellington THE EVENING POST In English 14 Feb 80 p 1

[Text]

The soil alongside some New Zealand motorways is so contaminated with lead that it would now be economic grade lead ore.

Sheep and cattle grazed on the "long acre" alongside major highways have so much lead in their livers and kidneys that whole export consignments of meat could be rejected if the poisoned offal were tested.

The grim news about the effect of lead in car exhausts comes from Dr R. R. Brooks, Reader in Chemistry at Massey University.

Talking to the Institute of Chemistry in Wellington last night, Dr Brooks described research that he had done with one of his PhD students, Dr N. I. Ward.

Sheep grazed on the roadside of the Dannevirke-Napier highway were among the flocks tested.

Grazed for six continuous months alongside a highway the sheep had a lead content in their blood of 0.90 parts per million compared to 0.29 for sheep from a nearby uncontaminated area.

The lead was accumulated in far higher concentrations in the livers (20 parts per million), kidneys (154 ppm) and bones (36.5 ppm) of these sheep standing in the traffic fumes.

The research (the first in New Zealand, Dr Brooks believes) found that the lead was both breathed in by the sheep and eaten from contaminated grass.

Dr Brooks found that the animal at most risk from lead, which comes from leaded petrol, is the service station dog.

Vets did post-mortems on eight New Zealand dogs that died from lead-poisoning. Some of the dogs had 8 ppm

lead in their tissue compared to the normal level of 0.2 ppm.

"You wonder what happens to the service station staff," said Dr Brooks.

Lead kills because it stops the body's enzymes working. In human beings the first signs of lead poisoning are excitability and anti-social behaviour.

Dr Brooks was not sure how the service station dogs got so much lead in their systems although the lead clearly came from petrol. He thought the dogs could have been chewing soil from near the stations.

But he also said there was always a lot of exhaust fumes around petrol stations as cars stopped and started there.

His advice to farmers is that they should stop grazing their sheep and cattle along roadsides. The lead contaminates the soil up to 30 metres from the road, but if sheep are grazed in a large paddock the uncontaminated grass will keep the overall lead level down.

If sheep or cattle are grazed on roadside strips the offal should be discarded rather than risk having it condemned overseas in export shipments, he said.

Budding mining magnates, however, should not get too excited about the lead ore beside motorways.

The lead amounts to 0.3 percent of the soil on the margin of Auckland motorways where 60,000 vehicles go by every day.

But Dr Brooks says this ore (which also contains bromine, nickel and cadmium) only goes five to seven cm down into the ground.

Continued from THE EVENING POST in English 19 Feb 70 p 13

[Lead]

FARMING advisers have discounted the risk to New Zealand's export trade from lead contaminated offal.

Dr R R Brooks, of Massey University, was reported recently as saying the offal from stock grazed on roadsides should be discarded rather than risk having it condemned overseas in export consignments.

A Federated Farmers' meat and wool section representative said that they had not discussed the problem, but pointed out that stock would have to be grazed at the roadside for 24 hours a day for months on end for the danger to arise, and that that did not happen.

The Department of Agriculture's meat division said it would certainly be opposed to long-term grazing on roadsides, but that the proportion of animals affected was so small as to make full screening of offal unwarranted at the moment.

The division said stock had not long ago been sampled for heavy metals over a five-year period, and that the levels had been so low that they were insignificant.

"To get the figures Dr Brooks quoted, you would have to graze the animals on the roadside six months at a time, and most New Zealand stock is moved faster than that," a department official said.

Reduction

The oil industry has confirmed that there are plans to reduce the lead content of New Zealand petrol.

Mr P W Marriott, who is both the managing director of Mobil Oil and the chairman of the Marsden Point Refinery board, said that the proportion of lead would be halved when the present expansion of the refinery was finished.

The present level is 0.84 gram a litre, and, after expansion, it would be 0.45 gram a litre.

He said that survey of 189 countries had shown 106 with a lead content of 0.84 like New Zealand's. Four countries' levels were higher, and the rest were lower, going down to 0.40.

Lead-free petrol is available in the United States.

Mr Alan Turner, technical manager of Shell Oil, said that it would require 33 percent more feedstock to produce the same amount of 0.45 gram a litre leaded petrol at Marsden Point at the moment.

It would require 100 percent more feedstock to produce lead-free petrol.

The refinery was working at capacity already, so a lead-free policy would mean that New Zealand would have to import large quantities of refined gasoline.

"Lead is a cheap way of getting octane numbers, and increasing the yield of gasoline," he said.

He agreed that there were biological problems with lead, but he said the average person in New Zealand had only half the safety level of 40 micrograms of lead per 100ml of blood.

'XINHUA' ON ENVIRONMENTAL PROTECTION THROUGH URBAN PLANNING

OW160610 Beijing XINHUA Domestic Service in Chinese 0127 GMT 15 Mar 80 OW

[Research report by XINHUA correspondent Chen Weibang: "To Promote Environmental Protection, Full Attention Should Be Given to Urban Planning"]

[Summary] Beijing, 15 Mar--"Cities are where population and industry are concentrated and where environmental pollution is comparatively serious. To promote environmental protection now, emphasis should be laid on urban, industrial and mining areas. And, to promote environmental protection in these areas, it is necessary to give full attention to urban planning, because urban planning provides an overall blueprint as well as an overall plan for various construction projects in cities." For a long time, however, urban planning has been neglected, industrial construction projects have been planned in an unreasonable way and the urban environment has been damaged.

Plants that discharge poisonous gases and large amounts of dust should never be built to the windward of a city, still less in the center of a city. Coal dust from a 100,000-kw power station located right in the center of Shanxi's Houma Municipality has polluted not only the city but also the cottonfields in the suburbs for years.

Plants that discharge harmful wastes into water should not be built in the upper reaches of a city's water sources. Waste water from Zhengzhou Chemical Plant and Zhengzhou No 2 Chemical Fertilizer Plant built near the city's water source has seriously polluted the city's water.

Plants should not be built in a city's residential areas. Shanghai's Tongxin stocking plant built a workshop in a residential area. Noise from the workshop has seriously annoyed people.

To maintain an urban ecological balance, it is necessary to promote afforestation. According to urban planning, certain areas in a city should be afforested. However, some 43,000 mu of public afforested land in Beijing Municipality has been arbitrarily occupied during the past 10 years or so.

"In the new long march, transformation and construction of existing cities in China will be greatly accelerated, and there will emerge a large group of new industrial cities. How to carry out urban construction in a more

reasonable way and how to improve the urban environment constitutes an important issue in socialist construction, a common task to be carried out by urban planning and environmental protection workers."

"To carry out urban planning work well, party and government leaderships at all levels, particularly city party committees and governments, must conscientiously strengthen leadership over urban planning work."

The urban planning department should coordinate with the environmental protection department in selecting locations for new plants and in removing plants that cause serious pollution. The industrial department should respect and follow reasonable demands by the urban planning department. The urban planning department should make an overall plan for industrial, civil and public construction projects in the city.

"The state must formulate an urban planning law that will give legal guarantees to urban planning. Urban planning, once approved, must have legal effect and any violation of urban planning must be dealt with in accordance with laws and regulations."

CSO: 5000

PEOPLE'S REPUBLIC OF CHINA

'XINHUA RIBAO' EDITORIAL CALLS FOR CONTROLLING POLLUTION

OW201147 Nanjing Jiangsu Provincial Service in Mandarin 2300 GMT 19 Mar 80 OW

[XINHUA RIBAO 20 March editorial: "Harness Pollution in a Comprehensive Way To Protect the Environment"]

[Text] The editorial says: Eliminating pollution to protect the environment is an important part of the four modernizations program and is also a tremendous way of bringing happiness to the people. For this, the provincial party committee and the provincial people's government have convened a special provincial conference on environmental protection and have put forward the fighting goal: comprehensively harness pollution, bring environmental pollution under control within the next 3 years, and bring about a gradual improvement so as to create a fine environment for realizing the four modernizations.

The editorial points out: To realize this fighting goal, it is first necessary to seize the present opportunity to conscientiously implement the tasks put forward by the conference. It is also necessary to do a good job in propaganda work. It is especially important that cadres at all levels be made to understand the urgency and importance of environmental protection. Efforts should be made to correct erroneous thinking and the tendency of some people who pay attention to developing production but no attention to controlling pollution. Economic means must be used to commend and award those units and individuals that have made marked achievements and contributions in protecting the environment. Tax cuts, tax exemption as well as other favorable treatment in regard to the price policy should be offered to enterprises that have achieved good results in making multiple-utilization of the "three wastes" to turn them into useful materials and change the harmful into the beneficial. Comprehensive control of pollution should be encouraged.

Those industrial and commercial enterprises whose discharges of the "three wastes" have failed to meet the state-prescribed standard, thus seriously polluting the environment, must be made to pay fines so as to make them include environmental protection work in their enterprise management and take an active part in controlling the "three wastes."

It is necessary to implement the principle of integrating prevention, management and control, with the emphasis on prevention. In the future it will not be permitted to increase the sources of pollution. Newly-built projects without pollution-control facilities will not be permitted to operate. Those enterprises which have ignored warnings and continue to discharge pollution will be made to pay heavier fines. All areas, trades, municipalities and enterprises must start their own major pollution-control programs so as to eliminate pollution step by step.

The editorial emphasizes: Departments in charge of environmental protection should be consolidated, and their leadership strengthened. As the party's and government's advisers and assistants, these departments are still at a pioneering stage. Therefore, they are still rather weak and have many work difficulties. In the face of difficulties, comrades of these departments must have confidence, do something worthwhile and dare to uphold principles. Party committees and governments at all levels should fill departments in charge of environmental protection with capable cadres and technicians so as to support their work.

CSO: 5000

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

SEA POLLUTION SURVEY BOOK--Beijing, 9 Mar--Hai Yang Wu Ran Diao Cha Zhan Xing Gui Fan [3189 3152 3064 2676 6148 2686 2548 5887 6016 5400--Provisional Standard Rules Governing the Survey of Sea and Ocean Pollution], a technical book for the surveillance and survey of environmental pollution of the seas and oceans, was published recently. Compiled under the sponsorship of the State Oceanography Bureau, the book is divided into six parts following the section of general principles. The six parts deal with water quality analysis, "body" [di zhi 1646 6347] analysis, analysis of harmful matters in living things, determining radioactive matters, ecological survey of the living things in the "littoral zones" [chao jian dai 3390 7035 1601] and investigation of the source of pollution. It has some appendixes introducing domestic and foreign technical standards and regulations concerning sea and ocean environmental protection, including the "contents of various elements normally found in sea water. [Beijing XINHUA Domestic Service in Chinese 0148 GMT 9 Mar 80 OW]

CSO: 5000

LAND, SEA CONTAMINATION EXAMINED BY NUNEZ JIMENEZ

Havana GRANMA in Spanish 4, 5 Feb 80

[Two part article by Antonio Nunez Jimenez: "The Contamination of the Ocean and the Land"]

[4 Feb 80, p 4]

[Text] In their book, "Una Sola Tierra" (1972), Barbara Ward and Rene Dubos express the opinion of many marine biologists when they say that the oceans are the part of the biosphere most immediately threatened by contamination.

The danger has surprised many people who viewed the ocean as "a giant, universal sewer, a vast septic tank that gives clean water back to man, beasts and the plants by means of evaporation and precipitation. It is an important supplier of oxygen released by its phytoplankton, benefiting all species on land, in the water and in the air that breathe by means of lungs or gills. Without the special qualities of water for retaining heat, a large part of the Earth's surface would be uninhabitable. The oceans cool the tropics, carry warm currents to cold regions and are universal moderators of temperature," Ward and Dubos say in their work.

According to statistics, the danger of further contamination of the sea lies in the fact -- among others -- that in 1969, mankind consumed 63 million metric tons of fish, one-fifth of the production of the world's oceans.

Greatest Danger of Pollution

The greatest danger resulting from ocean pollution is that the part most rapidly destroyed is the surface layer, coastal zones, estuaries and bays. One must also bear in mind the fact that most plankton and other manifestations of marine life depend on the photosynthesis that is concentrated in a fairly shallow layer of the ocean, specifically, the layer that is 200 meters deep. This is all the more alarming when one realizes that 90 percent of all marine life is concentrated in the shallow waters.

Contamination of Cuban Waters

Because of the fact that the ocean is a single, worldwide entity, pollution of one area is carried to other distant zones by the currents that circulate throughout all the seas, whence the danger to all coastal nations and even those without shores because they suffer the effects indirectly.

The waters that bathe the Cuban coasts have been contaminated to a certain extent by different factors: the custom of dumping industrial waste into the rivers, which then flow into the sea, the oil spilled by tankers, and so on.

It should be recalled that Article 27 of the Constitution of the Republic of Cuba states that it is the responsibility of the organs of government and the citizens to ensure that water and the atmosphere are clean and to protect the soil, fauna and flora.

Alarming Figures: Oil Spills

We offer a number of figures to demonstrate the danger of ocean contamination, bearing in mind the fact that the ocean is a single entity and that the effects of pollution are carried great distances by world marine currents. In 1978, only 18 kilometers from the coast of New York, 14 million tons of sewage, industrial waste and other contaminating elements from the construction industry were dumped into the water, which has been done for half a century.

In 1967, the oil tanker called the "Torrey Canyon" suffered an accident and its thousands of tons of fuel spilled into the sea, killing thousands of water birds and fish found off the southern coast of Cornwall, Great Britain, and ruined tourist beaches with the damaging fuel.¹

In 1969, an oil well off the coast of California unexpectedly began to pour oil and for 12 days, until the well was plugged, some 100,000 liters gushed into the water every day. The damage to that part of the Pacific Ocean was a giant floating slick 1,300 kilometers long, which killed birds, dolphins, seals and fish.

In 1977, another oil spill disaster occurred in the North Sea, where a drilling platform was in operation. In a matter of days, the layer of oil was 15 kilometers long, 2 kilometers wide and 60 meters deep. The oil slick increased its volume with 4,000 tons of crude oil and natural gas, with the resulting damage to flora and fauna.

In 1979, the oil tanker "Gino," flying the Liberian flag, collided with another tanker, the Norwegian "Tea Castor," spilling part of its load. Remaining in the hold of the "Gino," at a depth of 135 meters, was a large quantity of bitumen.

¹ Gooders, J., "La Tierra Contaminada," p 30.

Previous to that time, ocean waters off the coast of Brittany, France, had been affected by the 230,000 tons of oil spilled by the "Amoco Cadiz."

Up until the time of the ocean voyage made by Thor Heyerdahl on his raft, it had been believed that on the high seas far from the coasts, there was no pollution from oil, but the Norwegian navigator stated in his diary that he discovered large slicks of crude oil on the waves.

In the last 20 years, the drilling of oil wells on the continental shelves has aggravated the problem of ocean pollution due to accidents involving those wells. In order to give an idea of the potential danger, let us say merely that there are miles and miles of wells drilled in the geological structures offshore.

In 1972, 17 percent of the planet's oil supply came from wells drilled offshore, a figure that is increasing, with the natural harm to the sea. The number of oil spills has multiplied and the black slicks bring death to all living creatures found in the area contaminated.

In 1979, the Ixtoc 1 well in the Gulf of Mexico began to pour forth oil which advanced toward the coast of Veracruz at a speed of 9 kilometers a day. It continued on to the southern coast of the United States, doing great damage, especially to the rich fishing zones. For several months, the well gushed forth over 30,000 barrels of crude oil, half of which floated on the water while the rest burned and evaporated. As late as October 1979, the well continued to pump oil into the sea, generating the largest oil slick in the world. Finally, at the end of that month, it was controlled.

In addition to all the foregoing are the enormous quantities of oil spilled by tankers during their routine voyages. A group of experts gave a report before the secretary general of the United Nations, a report in which it was estimated that every year, 2 million tons of oil are poured into the ocean despite the laws and conventions regulating operations to avoid polluting the sea.

Until the 1960's, the tankers had an average capacity of 13,000 tons, compared with today's vessels that may carry up to 325,000 tons. Future plans include tankers of 800,000 tons. On this subject, Ward and Dubos (Op. cit.) say that a single one of these tankers could pour such quantities of oil into the water that total pollution of ocean waters would be increased 25 percent.

Oceans such as the Antarctic, where there are scarcely any spills, are partially covered with fuel because of the movement of ocean currents.

The following is the dramatic testimony of Dr. Harry R. Little, doctor on a fleet of whaling vessels: "I found small seals covered with oil, their eyes fully of blood because of the irritation it caused, and I have seen

many penguins imprisoned in an almost solid layer of the same fuel, awaiting a slow and terrible death."²

Fight Against Ocean Contamination

At the sessions of the International Maritime Consulting Organization, it was revealed that some governments had prohibited ships from dumping oil residues within a distance of 100 miles in order to protect the northeastern coast of North America, the Mediterranean Sea, the Red Sea, the Persian Gulf, the western coast of Canada, the Atlantic Coast of Spain, the coast of Portugal, the Indian Ocean and Australian waters, without mentioning the protection which the Soviet Union has placed over its adjacent waters.

The danger of increased oil pollution of ocean waters has led to the adoption of new procedures for reducing the amount of oil intentionally unloaded. The Soviet Union has built special boats able to skim off 7 tons of oil from the ocean surface per hour. American specialists are working on a decontamination system to be carried by plane. Portable pumps would go into operation 4 hours after a call for help and within a matter of 24 hours, 20,000 tons of oil could be pumped out.

Atomic Pollution

In addition to the foregoing, one must also mention pollution caused by atomic waste dumped into the sea by atomic power plants and by explosions staged in the ocean, such as those carried out in recent years by France.

Only 48 hours after the explosion of the atomic bomb on the Bikini atoll, radioactivity on the surface of the water was 1 million times greater than normal, and 4 months later, radioactivity was triple the normal level at a distance of 2,500 kilometers from the explosion. After 13 months, the contaminated water had spread over an area of more than 2 million square kilometers (Gorsky, N., 1969).

The atomic industry now set up in a number of developed countries produces waste which England, for example, evacuates by pipeline to the Irish Sea. The United States dumps radioactive waste into the Tennessee River, buries it or places it in special containers that are then dropped deep into the ocean. Such containers run the risk of being destroyed by ocean water, meaning that the dangerous material would then leak out into the sea.

² Woodward, D., 1962, pp 11-12.

[5 Feb 80, p 3]

[Text] Cuba now has a National Committee for Environmental Protection and Conservation of Natural Resources (COMARNA).

In this chapter, we deemed it necessary to point out some of the criteria regarding the objectives, organization and functions of COMARNA in the programs for protection of the environment and the conservation of natural resources.

Environmental protection is one of the problems to which mankind is paying more and more attention. The traditional irrational use of natural resources, the anarchy of economic and especially industrial activity and the lack of any long-range planning of economic and social development have resulted in extremely unfavorable situations from the ecological standpoint and danger to living conditions now and for future generations.

With its great industrial and technological development, the capitalist system inherently implies the utilization of natural resources in a devastating and irrational manner. The system, based on individual ownership of means of production and without any economic planning, engenders the impossibility of reconciling its own development with the preservation of an environment guaranteeing a better future for mankind.

The countries which suffer the most from this contradiction are those with an inadequate level of development, harassed politically and economically by the great capitalist powers which indiscriminately sack their natural resources, introducing their obsolete technology whose aftereffects of all kinds are damaging to the health of man and animal and which gradually destroy the ecosystem and resources.

Given the fact that natural conditions on Earth go beyond national borders, the global nature of ecosystems on Earth makes it increasingly obvious that solutions for facing the problem must transcend strictly scientific measures and shift to a political and international level.

Like other socialist countries, Cuba, which is experiencing accelerated economic development in order to meet the ever-increasing material and spiritual needs of man, has the right conditions for channeling economic and social development without the danger of major environmental harm that would compromise the future living conditions of our society.

The position on scientific policy approved by the First Congress of the Communist Party of Cuba states, among other things, "the need to pay ever greater attention to the protection and improvement of the environment and to the use of natural resources (...). To that end, priority must be given to scientific and technical research related to erosion and the salinization of the soil, the contamination of underground water, improper use of our mineral reserves and the affectation of flora and fauna, mainly

our indigenous species." It then adds: "In order to give special attention to these problems, it is necessary to set up a suitable national organization having the required authority. That organization will recommend legislative measures and the proper technology for the protection and improvement of the environment and rational use of our natural resources."

Law 1323 of Cuba clearly states that every organization in the central administration of government has the responsibility of ensuring the conservation and rational use of natural resources in its domain. For example, it explains that it is the task of the Ministry of Agriculture to direct and oversee the use, conservation and improvement of agricultural land. The Ministry of Mines and Geology is to exercise effective control over the country's geological reserves and set forth the measures regulating the use and working of our mineral resources.

The law assigns to the Ministry of Public Health responsibility for regulating sanitation of rural and urban areas. Likewise, the Ministry of Construction must draft and propose measures aimed at the preservation of hydrological resources and the prevention of pollution.

The same law provides for the establishment and supervision of the system of protection of the environment and the rational use of natural resources.

The essential function of COMARNA consists of the establishment of a system based on the most advanced scientific and technical knowledge in order to achieve the coordinated development of human activity with the least possible harm to the environment and natural resources.

The objective of the system is to see that all activities are coordinated in such a way that the result will be a coherent policy of the rational use of natural resources, while protecting the environment for the enjoyment of current and future generations.

The system of environmental protection will be made up of all activities which the organizations in the central government administration have under their supervision, by virtue of Law 1323, with respect to protection of the environment and the conservation of natural resources.

Consequently, in accordance with the position on scientific policy approved by the First Congress of the party, it is required that a government organization have the required authority to analyze all the situations that might lead to destruction of the environment, for the purpose of participating in an analysis of solutions and suggesting measures and research aimed at preventing the environmental impact that might occur.

In addition, up-to-date knowledge of the country's environmental situation is required in order to guide actions to be taken.

It is essential to have a systematic evaluation of the environmental situation and supervision of activities carried out in the field by the different organizations.

In accordance with an order from the Council of Ministers dated 30 November 1976, COMARNA is in charge of establishing, heading and overseeing the system of environmental protection and regulating the rational use of natural resources.

The main functions of COMARNA are to keep the diagnosis of the country's environmental situation up to date, which is done through a national survey of sources of contamination by industrial, urban and agricultural waste, supervision of waterways, underground basins, the atmosphere and the continental shelf, and the drawing up of soil maps with respect to erosion, salinity and acidity.

COMARNA also participates in the drafting of regulations that make up the legal framework needed for environmental protection and the investment process by means of an evaluation of environmental variables in the investment proposals placed before JUCEPLAN [Central Planning Board]. It proposes scientific and technical research deemed necessary in order to solve problems having to do with protection. It promotes the training of the necessary scientific and technical personnel. It orients and coordinates educational and informational activities and, working with the organizations in the central government administration, coordinates the establishment and rational use of natural reserves and other protected areas in the country.

11,464

CSO: 3010

EXPERT WARNS OF POSSIBLE COASTAL POLLUTION

Manama GULF DAILY NEWS in English 26 Mar 80 p 1 CF

[Article by Bill Rylance]

[Text] Dangerous industrial wastes may be being dumped into Bahrain coastal waters.

And a leading Bahraini expert said yesterday that steps will be taken to prevent a "minimata-type disaster."

"We have reason to believe that some companies are dumping materials containing organic mercury and/or lead directly into the sewerage system," said Mrs 'Afaf Ash-Shu'lah, senior occupational hygienist at the public health.

"A questionnaire to companies contained a question on pollution control and pollution monitoring methods. With the exception of a few, all the companies either gave insufficient answers or deleted it as not applicable."

"These answers," says Mrs Ash-Shu'lah, "are not accurate."

Bahrain is faced with the problem of pollution affecting its underground sweet water supplies and experts from the municipality, the public health and the water resources department have been working for two months in search of a suitable dumping ground for industrial waste.

"We have found an area in the south of the island that does not have any water under it. This is the area we have chosen to bury the waste," Mrs Ash-Shu'lah said.

The experts also carried out tests on fish caught off the island's shore and small amounts of mercury and lead were found in the flesh.

"So far, the amount has been negligible and well below the permissible level, but the fact that it is there is evidence of mercury and lead dumping," she said.

The occupational health section has recently been putting a strong emphasis on industrial health and safety.

Only last week, they warned companies that their workers could be facing radiation poisoning because of their mishandling of radioactive materials.

Companies were warned that unless the proper safety measures were taken, they could face heavy fines or have their licence confiscated.

It was the failure to identify mercury in the seas off the Japanese fishing town of Minimata that led to the worst recorded case of widespread mercury poisoning, the Minimata disaster.

CSO: 5000

BRIEFS

SEA EROSION FEARED--Ada-Foah, the administrative headquarters of the Ada Traditional Area in the Greater Accra Region, is being threatened by sea erosion. The erosion has forced the people living along the south eastern part of the town to abandon their houses to live with relatives. This was disclosed to the President, Dr Hilla Limann, by Mr S. T. Ayekpa, chairman of Ada Development Association, during an inspection tour of the area. Mr Ayekpa appealed to the President to use his good offices to ensure that steps were taken to prevent further erosion. Mr Ayekpa said the erosion which started about six years ago had created a lot of inconvenience to people in the area. [Excerpt] [Accra DAILY GRAPHIC in English 29 Feb 80 p 1]

CSO: 5000

TEXACO OIL SPILL RAISES SERIOUS QUESTIONS

London WEST AFRICA in English 10 Mar 80 p 427

[Editorial: "The Threat of Oil"]

[Text] The massive pollution of the coast of Nigeria's Rivers State, by oil from an exploded Texaco rig is a disaster of world dimension, though it has received little publicity. Apart from the human tragedies and the disrupted lives (see Matchet's Diary from Rivers State on page 438), the episode raises important question about the role an expatriate company should play in the community in which it works and from a Nigerian point of view, the disaster has given new beat to the debate on whether "derivation" should play a major part in deciding the amount of federal revenue allocated to the states.

The explosion happened on January 17 on a rig drilling for offshore oil not far from the town of Akassa. Texaco admits a human error after a sudden build-up of pressure. For the next fourteen days oil gushed into the sea--an estimated 280,000 barrels--and was taken by the wind and the waves onto the shore and into the creeks of Rivers State. The rig caught fire on January 30, which reduced the flow. The fire is now out and everything is said to be under control.

More than 200 towns and villages, with populations adding up to more than 250,000 people, have been affected by the stinking oil. About 100 kilometres of coast is polluted and the pollution has spread as far as 30 kilometres inland along the creeks of the estuary. This is a tragedy not so much of death--though several people have died after drinking polluted water and a number of children are desperately ill--as of the total disruption of lives. This is a fishing community, and fishing has ceased. At the beginning fish floated dead on the surface of the river waters and were washed up on the beaches. Now there are almost no fish. If one is caught it is likely to smell of oil when cooked. The income of most people has thus ceased, and few crops are grown. Drinking water is another desperate problem, with old wells polluted and in some cases even new wells stinking oil-affected water. Many people have moved away from the area, with whole villages becoming empty.

The Rivers State government has decided to provide aid worth N1m. and have begun sending water, food and medicines. With communications in the area difficult and solely by water, some of this has yet to reach the worst-affected area. The state has asked the President to declare a disaster area. President Shagari has sent a team to investigate and allotted N2m. for relief work but has not yet declared a "disaster area". The Red Cross and other relief agencies are also investigating. Texaco has provided laughably little aid.

The oil company has been most severely criticised because it was so slow to inform the authorities of the disaster — the Governor still has received absolutely no communication from the company. "We do not exist" he said in an interview. The oil company succeeded, with helicopters and help from other companies, in evacuating safely the 95 people on the rig. Strenuous efforts, including the flying of an expert from Texas, were taken to control the flow.

But nothing was done to deal with the pollution — to provide booms to limit its spread. The company has since spread some sawdust on the coast and sprayed detergents on floating oil, but the scale has been small. Legal experts are saying that there is no law at present in Nigeria under which the oil company could be compelled to pay compensation for the damage it has caused. This is a matter that deserves investigation by federal legislators.

The affair has been a dramatic illustration of how little the oil industry is involved in local communities, although it has brought wealth to Nigeria as a whole. Rivers State reflects somewhat bitterly, for instance, that in the 24 years since oil was discovered there little benefit has accrued directly to the people of Rivers State. Near expensive oil production installations are impassable roads and neglected schools. It is one of Nigeria's least-developed states, though it produces 64 per cent of the country's oil wealth.

The Revenue Allocation Commission, under Dr. Pius Okigbo, which is touring the country, was in Rivers State last week and was taken to see the polluted area as well as hearing arguments from state leaders. The arguments, as in other oil producing states, pressed for the domination of the consideration of "derivation". This is in a hugely complicated matter. It is, however, difficult to see why the oil producing states should be richer than the non-oil-producing states simply because the rigs happen to be in their territory. People from Gongola or Oyo would argue, with some justification, that it is Nigerian Oil. What is surely incontrovertible, though, is the argument that the oil-producing states should not be handicapped because

the oil is in their territory. There have always been some disadvantages: farming land has been spoilt, fishing interfered with. Now the coastal people of Rivers State face complete disruption.

This may be only marginally a matter for Dr. Okigbo and his commission. It certainly should be of close concern to the Federal Government. Both providing immediate aid and in clarifying the legal responsibilities of an oil company. It should also be of world concern: as with other disasters there is surely a case for world aid being sent through the appropriate Nigerian Channels. Experts are saying that it may be as much as ten years before the ecology is sufficiently restored to allow normal life to be resumed in the village of Sangana, for instance, in the meantime the people of Sangana must not be forgotten, and the right lessons from their plight must be drawn.

WATER SHORTAGE REPORTED HITTING ARUA DISTRICT

Kampala UGANDA TIMES in English 7 Mar 80 p 8

[Article by Charles Darwin Dawa]

[Text]

ARUA district has been hit by drought, famine and water shortage. About 300,000 people are affected. Madi county is the most hard-hit.

Reports reaching Arua town say people in the affected areas have to scoop the sun-baked soil for several feet in the suspected high water table area or in dried up valleys before they can lay their vessels on water.

They have appealed to the government through the district commissioner, for help.

All streams, wells and swamps are reported to have dried up and people have to walk several miles in the

scorching sun to fetch water sometimes from the Nile.

The three-month old crisis has so far only claimed the lives of livestock.

Arua town is also hit by the water shortage because of the break-down of the water pump. If the situation continues for another month, the crisis will worsen.

A mug of drinking water currently fetches 1/- in Arua market.

An official from CARE international, Mr Charles Asea, has visited Arua to finalise relief supply arrangements. He reported that relief food supplies was already at Mombasa for onward transportation to Kampala and the affected famine areas in the country.

CARE has already accepted to feed over 7,400 destitutes in Arua in addition to material assistance.

MINISTER DENOUNCES DESTRUCTION OF NATURAL RESOURCES

Lusaka TIMES OF ZAMBIA in English 11 Mar 80 p 1

[Editorial]

[Text]

IS Zambia committing national suicide? That is the grim truth from the recent warning by the Minister of Lands and Natural Resources, Mr Clement Mwananshiku.

The minister said quite bluntly that at the present rate of destruction of trees, all Zambia's forest cover would disappear in the next forty years.

He said about 10,000 square kilometres of Zambian land are deforested every year through shifting cultivation, charcoal production and caterpillar collection.

This may seem of no great importance to urban-based people who have lost real contact with nature. In fact it is the most appalling threat to our national survival.

To strip the earth of its tree-cover is tantamount to stripping the skin from a living animal's body. Zambia's rainfall is seasonal and, when it falls, it is very heavy.

Trees break the force of the rain and conduct it with their branches to the earth in a gentle manner. On the ground are some grass and dead leaves. These again protect the earth.

Not only that: The rain helps to rot down dead leaves and other matter so that the earth is continuously being nourished with the naturally composted remains of what it produces itself.

Once the trees go this natural cycle of growth, decay and replenishment is irretrievably broken. And the result?

The good earth is carried away by the rainwater which becomes floodwater. Rivers and streams become rapids and torrents.

Earth silt is carried into them so that river beds are silted up and floods are created. Dams become silted up and useless.

This is happening under our very noses just as it has already happened in many parts of the world. The vast desert belt from the Sahara (12 times larger than Zambia) all the way across the Arab world to Pakistan and northern India is entirely man-made.

It was once a flourishing tree-covered area which sustained many civilisations through the ages. But it was destroyed by the woodman's axe, the charcoal burners and forest fires. It took centuries to destroy the ancient civilisations of Greece, Egypt, Carthage, the Mogul emperors and many others. The people then had only hand axes.

Today we have big machines, lethal defoliants, strange chemicals which prompt growth without enriching and binding the soil. We can destroy more today in a decade than our forebears could destroy in several hundred years. That is our danger...

Will we heed this warning now? Or will we continue to destroy our life heritage at this frightening rate? We must not fail to act to curb that rate. And there is very little time to do so.

CSO: 5000

SOLUTIONS FOR DISPOSAL OF SOLID HOUSEHOLD WASTES

Moscow PIANOVOYE KHOZYASTVO in Russian No 1, Jan 80 pp 113-117

[Article by A. Khatkevich, senior expert of USSR Gosplan: "Protection of the Environment from Pollution with Solid Household Wastes"]

[Text] One of the most important problems in the system of measures for environmental protection is the problem of collecting, removing, decontaminating and processing household rubbish.

With the growth in the municipal population, and especially of large cities, it acquires ever greater importance.

In 1978 in the cities and municipal-type settlements of the USSR 176 million m^3 of solid household wastes or about 35 million T were carted to the dumps. On the average for one city dweller per year there is 1.07 m^3 and in large cities--1.3 m^3 . The annual increase in accumulation of wastes for one resident is 3%. The considered dumps and fields for decontamination of liquid household wastes alone occupy over 14,000 ha of land. In addition, considerable territories are occupied by the so-called unorganized dumps (randomly dumped pieces of iron, glass and worn-out items around municipal-type settlements and rural population points). At the same time these valuable lands could be used for gardens, planting vegetables and other agricultural crops necessary for the city.

The collection and removal from the houses of household wastes both in our country and abroad is mainly implemented by automotive transportation. For this purpose container and basket garbage trucks are used. The container garbage trucks with eight changeable containers with capacity 0.75 m^3 each are maneuverable, convenient to use, however they are metal-intensive and of low-productivity, especially in hauling garbage great distances (for 1 trip--1-1.2 T of garbage).

The basket garbage trucks with capacity from 7 to 14 m^3 with device for compacting the garbage 1.5-2-fold are more efficient; their use makes it possible to haul in one trip 2.8-5 T of household wastes. A garbage truck has been developed and is passing tests that is made on a KamAZ automobile chassis with carrying capacity 7.3 T. Its output will begin in 1980.

However, the collection and hauling of household wastes by garbage trucks is economically expedient only with a distance of not more than 15-20 km. And since, as a rule, the lands suitable for location of dumps near the large cities have already been used, it is necessary to move the sections for them distances of 30-60 and even 90 km from the cities.

Under these conditions the so-called two-stage removal of wastes is more effective. Standard garbage trucks collect and deliver the wastes to the garbage transfer station located in the city limits or near it. Here the wastes are compacted 4-5-fold, then transferred in transport garbage trucks with holding capacity of 30-35 T and shipped to the sites of decontamination or processing. Such powerful garbage trucks, as well as the press compacters for the garbage transfer stations have already been made in experimental models and are undergoing tests.

The extant system of collecting solid household wastes in residential houses with the help of rubbish chutes provides for unloading the wastes from the rubbish chutes into standard containers of capacity 0.75 m^3 and their delivery manually from the garbage reception chambers, often located in the semi-basement floors, to the garbage trucks. Unfortunately, the modern planning of the residential buildings and yard territories does not make it possible to perfect this system. The Gosgrazhdanstroy [expansion unknown] under the USSR Gosstroy needs to create such plans for residential buildings that would guarantee the possibility of comprehensive mechanization of the garbage removal with observance of the sanitary-hygienic and aesthetic requirements, and with guarantee of the minimum operating and labor outlays.

The new pneumatic system of collecting and removing household wastes with their transporting on pipelines meets the requirements of environmental protection to the greatest degree. Its principle of operation is vacuum removal of wastes directly from the rubbish chutes of residential and public buildings and its transfer on underground pipelines 300-500 mm in diameter to the central point of waste collection where it is compacted and loaded into transportation vehicles. Such a system is applicable for a microrayon where the radius of activity is 1.5-2 km.

The described system has been built in the new microrayon of Severnoye Chertanovo in Moscow on imported equipment and it will go into operation at the end of the construction of the microrayon as a whole. It is planned to begin construction of such a system on domestic equipment in the microrayon of Ozerki-Shuvalovo in Leningrad.

Another system is the container pipeline pneumatic transportation for hauling different loose loads. It is also suitable for hauling solid household wastes a distance up to 50 km. Such a system is being built in Leningrad, and the wastes will be transported in cylindrical containers on 1200 mm diameter pipelines from the garbage transfer station in the southwest rayon to the garbage processing plant in the zone of Gorelovo a distance about 11 km. The output of the system is $500,000 \text{ m}^3$ of wastes per year.

Economic studies made by the Central Scientific Research Institute of Experimental Planning of Engineering Equipment of the Gosgrazhdanstroy under the USSR Gosstroy and the K. D. Pamfilov Academy of Municipal Services demonstrate that of the total sum of average annual outlays for construction and operation of the systems of pneumatic transportation of household wastes 65% goes for capital investments for their construction and 35% for operating expenditures. With the hauling of wastes by collecting garbage trucks the capital investments comprise only 20% of the average annual outlays, and the operating expenditures--80%. Thus, the systems of pneumatic transportation that require considerable initial capital investments, in 6-7 years their operation becomes more economical than the garbage truck system.

The advantage of the indicated systems as compared to the garbage truck transportation consists of the solution to questions of the good order of populated areas on a qualitatively higher level. The combination of systems of vacuum removal of solid household wastes from residential and public buildings with systems of container pneumatic transportation to the sites of their decontamination or reprocessing excludes manual labor and contact of the population with wastes, and makes it possible to completely mechanize and automate this labor intensive process. However, the equipment for the systems of pneumatic transportation as yet is manufactured in small quantities at enterprises of different ministries and departments. Currently in the system of the Minstroydormash [Ministry of Construction, Road and Municipal Machine Building] enterprises are being set up for production of equipment for different types of pneumatic transportation, including, for transporting household wastes.

The main mass of wastes both in our country and abroad are transported to open dumps. This forced measure of "getting rid" of household wastes is not a method of their decontamination. In breaking down at the dumps the household wastes pollute the surface and underground water, and impair the sanitary state of the environment.

The most inexpensive method of decontaminating solid household wastes is their storage in specially equipped ranges. Based on waterproof soil layers they guarantee protection of the subsoil water from pollution, and guarantee cleanliness of the air and soils of the adjacent territories.

Such ranges are active in Kursk, Orel, Kazan', and Penza, and are under construction in a number of other cities. They must be equipped with the appropriate equipment: excavators--for preparation and subsequent expansion of the foundation area, roller-compactors for wastes, scrapers or bulldozers--for daily insulation with soil of the wastes brought in, and units for washing the garbage trucks. Now for these purposes there is still not sufficient equipment set aside, and without it the ranges become the same imperfect dumps.

The production of roller-compactors of garbage has practically not been set up yet. The enterprises of the Minstroydormash responsible for the

creation and production of the necessary equipment are mastering its output extremely slowly.

However, the method of storing wastes in ranges has certain shortcomings. The fact is that household wastes contain valuable components that can and must be reused in the national economy. They include paper and cardboard (1-2%), food wastes (20-30%), textiles (4-6%), scraps of ferrous and non-ferrous metals (1-3%), polymer materials (0.5-1%), glass (5-9%) and other materials of organic and inorganic origin. With the burial of wastes at ranges or dumps these materials are irrevocably lost.

Of the extant methods for reprocessing and utilizing solid household wastes the most widespread is composting with the production of organic fertilizers and biofuel, combustion with the use of heat and pyrolysis with the production of carbon-like powder and combustible materials.

The compost obtained from the solid household wastes is harmless and is a valuable organic fertilizer. It contains nitrogen, phosphorus, potassium, calcium and other substances, valuable components that improve the structure, physical and chemical properties and biological activity of the soil. Compost is also used as a biofuel in closed ground of early vegetable growing and flower raising, as well as a fertilizer for field crops and in the garden-park gardening. It can also be used for recultivation of lands, formation of a soil layer, in the recultivation of a growing ground for municipal landscaping, and for other purposes.

In Leningrad, in the zone of Goreslavn, in 1971 the first garbage reprocessing plant in our country was put into operation. The cost of its construction was 4.2 million R. The main technological aggregate is a biotrans made by the plant "Valgetsemash" of the Mstroydormash. The plant reached rated output and in 1975 118,000 T of household wastes were reprocessed at it, 81,000 T of compost were obtained that were used in the suburban vegetable growing sovkhoses, and 2217 T of scrap ferrous metals were collected and sent to Vturchromet (State Trust for the Procurement and Processing of Secondary Ferrous Metals). On the territory set aside for the plant construction has been started of its second phase with the same output.

With regard for the saving from reduction in the distance of hauling the wastes (the dumps are located 40 km from Leningrad, while the plant--9 km), the saving of land for dumps, as well as the increase in the harvest of vegetables in the sovkhoses the total national economic effect from the activity of the Leningrad plant for reprocessing wastes is fairly high. At the same time in its work there are still negative aspects. Thus 4% of the incoming solid household wastes, the so-called noncompostable residue, is not utilized but is sent to the dump. For utilization of this part of the wastes construction has begun of a pyrolytic unit on which it is planned to produce fuel gas for intraplant needs and gyrocarbon--carbon-like powder used as a filler for producing rubber and as a carbon additive

in the foundry industry. According to the calculations, with the putting into operation of this unit the plant as a whole will be an enterprise without loss.

In 1977 the Moscow garbage reprocessing plant No 1 was built with the same output as in Leningrad (100,000 T of household wastes per year). The cost of construction was 8.8 million R. Here wastes are also processed into compost, but with combustion of the noncompostable fractions.

During 1978 at the plant 93,800 T of wastes were reprocessed, 29,600 T of compost were obtained, and 64,900 T of steam, and 516,700 T of ferrous metal scraps were collected.

The plants for reprocessing solid household wastes into compost on domestic equipment are operating also in Tashkent and Minak, and construction has been started in Alma-Ata, Tbilisi, Khar'kov, Gor'kiy, Baku and others.

The technology and composition of equipment adopted at the indicated plants are still imperfect and require considerable additional work. The scientific research and planning-design organizations of the Ministroydormash and Minshilkomkhos [Ministry of Residential Municipal Services] of the RSFSR are faced with a lot to do to perfect the technology of production and equipment for the garbage reprocessing plants.

The Ministroydormash is implementing work to create and master series production of systems of machines and equipment that guarantee complex mechanization and automation of the technological process of reprocessing into compost the solid household wastes with the minimum labor outlays. For the production of this equipment the system of the ministry is completing construction of a specialized enterprise.

In addition to the method of plant composting of solid household wastes the K. D. Pamfilov Academy of Municipal Services has set up the technology for field composting that also provides for mechanization of the whole process, but in contrast to the plant unit where the biothermal process of reprocessing lasts 2-3 days, under field conditions its duration is from half a year to a year. The specific capital outlays and operating expenditures for the field units are 30-50% lower than at the plant. The first unit of field composting is being built in Aleksandrov in the Vladimirskaya oblast.

Combustion of solid household wastes in the municipal boilers and at the TSEs can yield a significant saving of oil, gas and other types of fuel.

Such use of solid household wastes has been provided for by the decree of the CPSU Central Committee and the USSR Council of Ministers "On Intensification of Environmental Protection and Improved Use of Natural Resources." The decree commissions the councils of ministers of the union republics to organize construction of garbage reprocessing plants and garbage combustion

plants in large cities and health resort zones of the country, and the Minenergomash [Ministry of Power Machine Building] to guarantee the creation and production of equipment for the garbage combustion plants.

The use of solid household wastes as fuel is practiced in our country and in many countries of the world. These wastes possess combustion heat of 1000-3000 kcal/kg. Their moisture content fluctuates depending on the time of the year and the climate belt from 20 to 60%, and the ash content--from 25-30%, which places them on a par with many types of coals, fuel shales and peat extracted and used in our country. For example, the combustion heat of brown coal extracted in the Primorskiy kray is 2120 kcal/kg, moisture content 41%, ash content 31, and that extracted in the Ukraine, the Dneprovsk and Zlatyansky fields, respectively 1600, 1580 kcal/kg, moisture content 51, 54%, and ash content 34, 30.

The solid household wastes contain sulfur up to 0.4 % in weight, while mazut--up to 4.5, coal up to 5-6%. In combustion of wastes practically no nitric oxides are formed, since the temperature of gases at the outlet from the furnace does not exceed 800-900° with 1.5-2-fold surplus of air.

As shown by the practical operation of the garbage combustion boilers and the TSTs abroad, even with a 6-9% content of plastic in the wastes, the chlorine compounds formed during their combustion are easily absorbed by the wet traps. The plastic content in the solid wastes accumulated by the municipal population of the USSR as yet does not exceed 1%. Purification of gases from dust in the electrostatic filters operating with 98% efficiency guarantees discharge into the atmosphere of practically pure gases.

It has been computed that in combustion of the entire volume of solid household wastes accumulated by the population of Moscow, in a year one can save 287 million m³ of natural gas (or 253,000 T of mazut) and cover 1/4 of the annual demand of the city for heat for communal-general needs. Thus, the use of wastes as fuel is expedient and economically profitable. But here there is an important feature: with a considerable oscillation in the calorific value of the wastes coming to the water heaters their steam productivity also oscillates. This makes it difficult to guarantee constant parameters of steam necessary for the consumer, and thus, the boilers cannot be used on solid household wastes as the only source of heat for any residential rayon or enterprise. Foreign and domestic practice has shown that the most effective is use of garbage combustion boilers in combination with the boilers on other types of fuel. Here it becomes possible to regulate the quantity of heat fed and its parameters by reducing or increasing the feeding of standard types of fuel.

Currently in Moscow there are two garbage combustion boilers in operation (specialized plants No 1 and No 2) constructed in 1972-1975 on equipment bought in France. The first operates as a unit for combustion of non-combustible parts of household wastes with generation of heat at the garbage reprocessing plant. The second operates as an independent boiler

in the industrial zone of Benkudnikova. The latter burns in two water heaters 16 T per hour of household wastes (400 T/day), or 130,000 T of wastes per year and gives heat to the main rayon heat networks.

In Moscow in the industrial zone of Biryulevo a garbage combustion boiler is being built on the basis of equipment from the firm "Volund" (Denmark) with output of 250,000 T of solid household wastes per year with generation of heat about 100 T of steam per hour, which will enter the system of heat supply of the rayon from the southern TETs of Moscow.

Construction is winding up on the garbage combustion boiler with output of 400 T of wastes per day in Vladivostok. Its heat will be fed to the collector of the nearby boiler in another form of fuel.

However, the imported equipment is expensive and the economic effectiveness of plant construction at it is lower than at the domestic. In addition, the repair and supply with spare parts of this equipment is considerably complicated and expensive. The task of guaranteeing the mass construction of the garbage combustion plants and boilers in the cities of the USSR can be solved only with the creation of reliable domestic equipment. It is expedient to supplement with garbage combustion water heaters and pyrolytic units the plants for reprocessing solid wastes into compost for utilization of noncompostable residues.

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Intensification of Environmental Protection and Improved Use of Natural Resources" commissions the Minenergomash to organize production of garbage combustion equipment for construction of plants and boilers in large cities and health resort zones of the country. Experimental models of this equipment with output of 3 T of garbage per hour have been made and will be tested at the end of construction of the boilers in Vladimir and Odessa. Equipment for combustion of 15-20 T of solid household wastes per hour in one water heater necessary for large cities has not yet been built by Minenergomash. Therefore it remains for the ministry to accelerate work and organize in the shortest time the production of garbage combustion water heaters with output of 15-20 T per hour. This will make it possible to construct the garbage combustion boilers with output of 400,000 T of wastes per year and guarantee solution to the problem for the cities with population from 500,000 to 1.5-2 million residents.

For larger cities it is expedient to create even larger enterprises. For example, the population of Moscow currently accumulates over 2 million T of household and 1 million T of industrial wastes per year which can be used as fuel. From this quantity at the available enterprises no more than 0.3 million T per year are reprocessed, and the remaining mass of wastes-- 2.7 million T (7,600 T per day) creates a serious problem for their hauling and decontamination at dumps and ranges that are located 60-90 km from Moscow. At the same time the construction by the Main Administration for Road Services and Municipal Good Order of small isolated garbage combustion boilers cannot solve the problem of utilization of the ever-rising volume of household and industrial wastes.

The creation and operation of large power engineering enterprises with the use of different types of household and industrial wastes in a net with water heaters on standard types of fuel are not characteristic of the low-output and unqualified administrations of public services of the city services. In our opinion, it would be expedient to include the water heaters for combustion of household and industrial wastes in the large TETs and boilers on other types of fuel under construction by the USSR Ministry of Power and Electrification, which would make it possible to use more efficiently the fuel obtained from combustion of wastes and significantly save on other types of fuel.

Reprocessing into compost and combustion with the use of the heat are two of the most developed and widespread methods for utilizing wastes. However, here there are certain unanswered questions. Thus, no reliable methods have yet been found for collecting glass from the compost, nonferrous metals and others. Work to perfect these methods, increase the quality of the obtained products and increase the economic effect from their use is now underway.

Currently, measures are being developed for further improvement in the use of secondary materials contained in solid household wastes, increase in the number of stores for collecting secondary raw material, expansion of the enterprises for processing it, and creation and increase in the production of equipment for these purposes. Scientific research is being done to perfect the technology of reprocessing secondary raw material.

The use of the examined methods of collection, removal, decontamination and reprocessing of solid household wastes makes it possible to guarantee the fulfillment of requirements for environmental protection. However, in the selection of a certain method for each city it is expedient to be guided by the corresponding technical and economic studies and criteria of optimality that must guarantee solution of all the aspects of the examined problem.

The S. M. Pavlov Academy of Municipal Services is developing a scientifically substantiated technique for comparison and selection of methods of decontamination and reprocessing of wastes that will permit the planning organizations to solve these questions based on a deep and comprehensive analysis of the specific conditions of a certain city. The main criterion for evaluating a certain method of solving the problem of collection, removal, decontamination and reprocessing of solid household wastes is the fulfillment of requirements for environmental protection and the most efficient use of natural resources.

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BELORUSSIAN SSR COUNCIL OF MINISTERS ADOPTS LANDSCAPING DECREE

Minsk SOVETSKAYA BELORUSSIYA in Russian 6 Feb 80 p 3

[Article: "On Additional Measures for the Organization of Public Services and Landscaping of Cities and Other Population Points and Expansion of Flower Production"]

[Text] In the decree adopted on this question it is noted that the Belorussian SSR Ministry of Residential and Communal Services, the oblispolkom and the Minsk gorispolkom have done specific work to increase the level of organization of public services and landscaping of cities and other population points. In 1976-1979 alone about 7,000 hectares of new landscaping and 3,200 hectares of reconstructed extant plantings were made. The production base of the enterprises and organizations for green construction and industrial flower growing has been further expanded. The area of flower greenhouses and ornamental tree nurseries has risen respectively by 30 and 32% and comprises 15.4 and 1.743 hectares.

At the same time the rates of work on the comprehensive organization of public services of cities and other population points and the development of industrial flower growing are insufficient. The landscaping of municipal territories has only reached 20%, while according to the general plans of the cities it should be 40%. The assignment for the creation of green plantings on the whole for the republic has been fulfilled in the 4 years of the five-year plan only by 76%, and in the Minskaya oblast--by 74% and the Mogilevskaya oblast--by 27%.

Work to improve the sanitary condition of the cities and their vegetation zones is not being carried out on the proper level. The forest tracts and especially the forest park belt of many cities are intolerably polluted and on large areas are unsuitable for recreation of the population. Wastes of industrial enterprises often are often disposed of in the forest tracts, while the municipal dumps are unsatisfactorily maintained.

The level of supply of flowers for the population of the republic is still low. At the same time the assignments for construction of flower greenhouses are not being fulfilled. With a plan for 27.1 hectares only 4.8

hectares of flower greenhouses (18%) have been constructed and put into operation in 1976-1979. The Belorussian SSR Ministry of Construction and the Belorussian SSR Ministry of Rural Construction from year to year do not assimilate the capital investments allocated for these purposes.

Fulfillment of the assignment for creation of profitable nurseries is being held back by the fact that the oblispolkoms and Belorussian SSR Ministry of Agriculture offer the enterprises of ornamental horticulture, as a rule, land tracts that are of low fertility or are subject to recultivation. The Vitebsk, Minsk and Mogilev oblispolkoms have fulfilled the assignment for allotment of land for nurseries respectively only by 11.8 and 10%.

Further development of the flower industry and ornamental horticulture is also being checked due to the low supply of the specialized sovkhoses and other enterprises of the plant industry with initial planting and sowing materials, machines and mechanisms, mineral fertilizers and other material and technical resources.

For the purposes of increasing the level of organization of public services of the cities and other population points, further development of green construction and expansion of industrial production of flowers in the republic the Belorussian SSR Council of Ministers has obliged the oblispolkoms and the Minsk gorispolkom to develop and with the agreement of the Belorussian SSR Gosstroy and the Belorussian SSR Ministry of Residential and Communal Services to approve in the third quarter of 1980 complex plans for the organization of public services of cities and other population points of the republic for 1981-1985. They must provide for an improvement in the organization of public services, general sanitary condition of the cities, other population points, and their suburban zones by systematic creation of new and landscape reconstruction of the extant vegetation, flower gardens and lawns on the intraquarter and yard territories, streets, parks, embankments, as well as on the territories of industrial enterprises, institutions and organizations, suburban sections of railroad and automobile roads, as well as reconstruction and restoration of the ancient parks, increase in the areas of vegetation of general use by means of creating new parks, squares and boulevards.

It is necessary to define the list of specific objects, periods for the beginning and completion of work, resources for its production, as well as the executors of the work (clients, planners, and general contractors).

The decree has provided for creation of suburban well-ordered forest parks, forest tracts and groves, forestation of ravines and deserts; good organization of the shores of rivers, lakes, reservoirs and ponds in the zone of recreation of the population, as well as green zones of cities and other population points with regard for the arrangement of water stations, beaches piscicultural farms; creation and development of the production base for enterprises and organizations for organization of public services, road and vegetation construction; participation in the fulfillment of measures for organization of public services and landscaping of cities and other population points of the collectives of enterprises, institutions and public organizations and the population.

The Belorussian SSR Gosplan and Gosnab have been commissioned to search for the possibility of allocating for target designation the material and technical resources to guarantee work to create parks and squares provided for by the comprehensive plans for organization of public services of cities and other population points of the republic.

The oblispolkoms and Minsk gorispolkom, the Belorussian Ministry of Residential and Communal Services have been shown the need in addition to making new plantings of vegetation of intensifying the protection of the extant and guaranteeing the proper care for them, of not permitting damage and destruction of trees and bushes in the construction of buildings and laying of pipelines; of rendering method and practical assistance to the flower lovers in growing flowers and realizing them; of jointly with the Belorussian SSR Ministry of Forestry systematically organizing the collection of deadwood, wind-fallen wood and windfall trees in the forests of the vegetation zones of the cities and other population points, of intensifying control over the sanitary condition of these forests; of instituting the proper order on the territories of industrial and household dumps. They should hold responsible the individuals guilty of polluting the forest tracts and recreation areas.

The suggestion has been adopted of the Belorussian SSR Ministry of Residential and Communal Services on the transformation of the republic administration of green construction into the republic production kombinat of road and green construction "Beldorzelenstroy."

They consider it necessary for the work to landscape the residential rayons under development and the territories of the enterprises under construction and reconstruction to be mainly implemented by the organizations of the kombinat "Beldorzelenstroy" as a subcontractor.

It has been suggested that the Belorussian SSR Gosplan examine the question of starting in 1981 including in the plans of economic and social development (section "Contract Work") volumes of work to be done by the organizations of the Belorussian SSR Ministry of Residential and Communal Services for organization of public services and landscaping of the territories of cities and other population points.

It was taken into consideration that the Belorussian Ministry of Forestry has created 712 hectares of nurseries for the production of standard planting material of ornamental tree-bush plants in an assortment developed by the Central Botanical Garden of the Belorussian SSR Academy of Sciences.

The Belorussian SSR Ministry of Residential and Communal Services, the Belorussian SSR Ministry of Forestry, oblispolkoms and Minsk gorispolkom are obliged to guarantee the conclusion by the residential and communal organizations with the forestry managements of annual and long-term agreements for the supply of standard planting material of tree and bush plants from the indicated nurseries and forests of the state forest fund for landscaping cities and other population points of the republic.

The suggestion was adopted of the Belorussian SSR Ministry of Residential and Municipal Services to construct a greenhouse complex for growing superior stock planting material of everbearing Dianthus and other flowering crops of protected ground in the Minsk rayon (near the Minsk TETs-4).

The Belorussian SSR Gosplan and the Belorussian SSR Ministry of Residential and Municipal Services have been commissioned to examine and solve questions associated with the creation in the 11th Five-Year Plan of a highly-mechanized, profitable service for growing the indicated planting material, and if necessary to make suggestions to the Belorussian SSR Council of Ministers.

The Belorussian SSR Ministry of Industrial Construction, Belorussian SSR Ministry of Rural Construction, the Belorussian SSR Ministry of Residential and Communal Services, the oblispolkoms and the Minsk gorispolkom are obliged to plan and implement a set of measures for improving the organization of construction of flower-greenhouse services and their timely putting into operation.

The Brest, Vitebsk, Gomel', Minsk and Mogilev oblispolkoms have been given a 3-month period in which to solve in the established order the question on setting aside land sections suitable for setting up nurseries for growing standard planting material of tree and bush plants.

The suggestion has been adopted of the Belorussian SSR Ministry of Residential and Communal Services and the Brest oblispolkom on the creation of a sovkhos for producing planting material of ornamental tree and bush plants, products of flower growing and seeds of lawn grasses on the basis of sections of vegetation of the Brest, Baranovich and Pinsk production associations of residential and communal service with the kombinat "Beldor-selenstroy" subordinate to it.

The Belorussian SSR Gosplan, Belorussian SSR Goskomsel'khoztekhnika [expansion unknown], the Belorussian SSR Gossnab and the Belorussian SSR Ministry of Agriculture have been indicated the need for stipulation in the plans of economic and social development of the allocation for target purposes to the sovkhoses of the Belorussian SSR Ministry of Residential and Communal Services of tractors, combines and other agricultural machines, mineral fertilizers, peat and nutrient peat mixtures, chemical resources of plant protection and polyethylene sheets in an order established for sovkhoses in the system of the Belorussian SSR Ministry of Agriculture.

The Belorussian SSR Goskomsel'khoztekhnika must improve the supply of the sovkhoses of the Belorussian SSR Ministry of Residential and Municipal Services with spare parts for automobiles, tractors and other machines.

The Belorussian SSR Ministry of Agriculture, the Belorussian SSR Ministry of Melioration and Water Management and the Glavpoles'yevodstroy [expansion unknown] have been commissioned to guarantee on the lands of the sovkhoses of the Belorussian SSR Ministry of Residential and Communal Services fulfillment of work for liming acid soils, melioration of lands and conducting crop engineering work.

The Belorussian SSR Ministry of Residential and Communal Services has been given the right to establish upon agreement with the Belorussian SSR State Committee on Prices the retail prices for the products of flower growing bought by the kombinat "Beldorzelenstroy" outside the republic.

The ispolkoms of the oblast, municipal and rayon soviets of people's deputies, Belorussian SSR Ministry of Residential and Communal Services and the Belorussian Environmental Protection Society have been given a recommendation to annually conduct in the cities and other population points a month's campaign for green construction and organization of public services, after guaranteeing the broad enlistment in this work of the industrial enterprises and organizations, higher and secondary special educational institutions, professional-technical schools, as well as the participation of the population of the republic.

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GRES WORKER BLAMES MINISTRY FOR POLLUTION

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Jan 80 p 5

[Article by M. Tikhonov, machine operator of Verkhniy Tagil GRES power unit: "Smoke from Another Department"]

[Text] To begin with I will draw a picture from nature. I have admired it many times in the environs of our small city of power engineers: the mountain Yezhovoy has a slow river Tagil that loops with shores overgrown with willow reeds and bird-cherry trees. And further there are short-grass meadows. And in summer such fragrant herbage grows there that it intoxicates any person. One can also describe cone-shaped hills set with trunks of pines casting red gold; springs with light and frigid water and much more. This is my day off. And going back to work I become...the most real enemy of nature--and of the rivers, the hills and the meadows. I pollute the river with oil wastes of the GRES and the air--with dust discharged from the stacks.

Now, for example, the snow around Verkhniy Tagil is covered with gray dust for 10-15 kilometers. I say "I pollute" because neither I nor my comrades removed responsibility from ourselves for the consequences of the GRES economic activity. And we will fight more persistently for protection of our nature. We were the first in the country to use "Venturi" tubes to trap ash, and have done a lot by our efforts that has led to an 8-fold reduction in the dust emission. We are engaged in reduction of the ash dumps and are confident that the grass will begin to become green there. And in order to guard the reservoir from overgrowth white amur and tolstolobik have been dissolved in it.

However will all our work on environmental protection bear great fruit if the GRES has already been operating for 20 years without an incomplete purification system? The state inspection commission did not accept it in its time due to a number of omissions. But it was nevertheless put into operation. The extant situation apparently suits the Ministry of Power and Electrification.

The people's inspectors and local powers have inquired about the pollution to the director many times and signalled the USSR Ministry of Power and Electrification. We were criticized at last year's party conference. Our

delegates felt very uncomfortable there. It happens that on the one hand we do not spare any forces for environmental protection, and on the other hand --spoil it, and reduce to zero our efforts and the efforts of our neighbors. This is why I would like to ask the leaders of the Ministry of Power and Electrification: when do the responsible comrades plan to complete what should have been done according to the plan a long time ago?

We look with envy at the new power plants in which electric filters of the most advanced design are being installed. They trap dust almost completely. In our oblast five power plants use Ekibastuz coal. And only one is equipped with effective electric filters. They explain to us: this is equipment only for new enterprises. But I, as a worker, and my comrades, do not understand: what is the difference if a new or old GRES spoils the wonderful corners of nature? They say that the equipment is expensive. It is true that the best is always more expensive. And if the Ministry of Power and Electrification does not want to come up with the money for it, then will the enormous outlays of other departments bring benefit?

What would happen, for example, if the leaders of the enterprises in Nizhny Tagil in future years spend tens of millions of rubles on environmental restoration work in the Tagil River basin, and we, located upstream, continue to pollute it as before? It is no accident that the decrees of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures for Intensification of Environmental Protection and Improvement in the Use of Natural Resources" speaks of the need to develop complex territorial plans for environmental protection. This is clearly stated also in the draft law on protection of the atmospheric air which the entire population of the country is now discussing with great interest.

And comprehensively, this means interestedly! And in this work it is important to see the forest beyond the trees: to admit that only thanks to the common efforts can one leave nature to our progeny in its earliest form.

For each of us the motherland begins from that corner where he was born, where his childhood took place. And apparently, it is pleasant for each to see this corner as clean, light and cared for. For there was a time, when, say, our neighbors, the people of Kirovgrad broke away from their home of many years and moved wherever: the copper smelting kombinat discharged so much dust and gas on the city. Now, when the people feel and ever-increasing concern for environmental protection, and this means, for the health of the citizens, a lot has radically changed. The old inhabitants are returning to their native places, and the young people are settling more and more in the city. The struggle for environmental protection helps to solve the social and educational tasks.

I believe that there will be great benefit if the question of environmental protection occupies the same place in competition as fulfillment of the plan. One cannot speak seriously of a love for nature and thoughtful attitude towards it if such a difficult barrier rises on this path as bureaucracy. But is it really insurmountable?

LAW PASSED ON TRAFFIC NOISE POLLUTION

Duesseldorf HANDELSBLATT in German 7/8 Mar 80 p 3

[Article by rr: "Noise Pollution Law Passed: More Quiet Only After Two Decades"]

[Text] Bonn--To eliminate the existing legal vagueness regarding noise pollution on highways and railways, and to reduce the consequent difficulties in the planning and building of means of transportation, parliament yesterday passed a "Traffic Noise Pollution Law," that still has to be approved by the Bundesrat.

In the future inhabitants can request from the state protection against noise, should the following limits be exceeded on new or considerably rebuilt roadways:

--60 dB(A) during the day and 50 dB(A) during the night near hospitals, spas, homes for senior citizens and schools.

--62 dB(A) during the days and 52 dB(A) during the night in purely residential neighborhoods and in areas of sparse settlement.

--67 dB(A) during the day and 57 dB(A) at night in urban areas, village areas, mixed areas.

--72 dB(A) during the day and 62 dB(A) at night in business and industrial areas.

Legal recourse against noise pollution on existing roadways will be granted when the noise level exceeds 70 dB(A) during the day and 60 dB(A) at night in areas that are purely or generally residential, areas of sparse population, near hospitals, spas, nursery homes and schools. For urban, village, mixed, business and industrial areas the maximum is 75 dB(A) during the day and 65 dB(A) at night. Measures against noise pollution can include construction of sound walls near the traffic routes, or remuneration to the residents for installation of noise absorbing windows. Residents will have to pay 25 percent of

the total cost of protective measures against noise pollution.

The law states that the noise level of new railroads can exceed that of the roadways by 5 dB(A). Since no measures are included about the noise on existing railways, the federal government is urged to compile a research program for a special effort entitled "Noise reduction on the existing rail lines of the German Bundesbahn."

On the basis of 1977 prices the annual cost of the 20-year noise abatement program is estimated at DM 983 million for all communities; the federal government's share is to run at DM 667 million, that of the Laender at DM 74 million, and that of the local jurisdictions at DM 242 million.

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